Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-10.   (Cancelled)

11.   (New) A speech section detection apparatus comprising:

signal-to-noise ratio improving means including a short-time auto-correlation value calculating means for calculating a short-time auto-correlation value based on a stored speech signal; and

speech section extracting signal generating means for generating a speech section extracting signal for extracting a speech section in said speech signal in response to a determination that a level of said short-time auto-correlation value calculated by said short-time auto-correlation value calculating means has continued to stay above a predetermined threshold value for a predetermined length of time,

wherein, said speech-section-extracting-signal generating means includes:

root-mean-square value calculating means for calculating a root-mean-square value of said short-time auto-correlation value calculated by said short-time auto-correlation value calculating means;

smoothing means for smoothing said root-mean-square value of said short-time auto-correlation value calculated by said root-mean-square value calculating means; and

threshold value setting means for setting, as said threshold value, the product of a predetermined factor and said root-mean-square value of said short-time auto-correlation value smoothed by said smoothing means in a non-speech section where said speech section extracting signal does not extract said section.

12.   (New) The speech section detection apparatus as claimed in claim 11, wherein said short-time auto-correlation value calculating means calculates said short-time auto-correlation value related to said speech signal, in accordance to:

$$X_C = \frac{1}{J} \sum_{j=0}^{J} X_L(n - j) \times X_L(n - j - M)$$

where X_C = short-time auto-correlation value,

X_L = low-pass filter output,

n = sampling number,

J = number of correlated samples,

M = number of independent samples, and

j = parameter indicating the number of additions.

13.   (New) The speech section detection apparatus as claimed in claim 11, further comprising preprocessing means for removing noise contained in said stored speech signal, wherein said signal-to-noise ratio improving means improves the signal-to-noise ratio of said speech signal from which noise has been removed by said preprocessing means.

14.   (New) The speech section detection apparatus as claimed in claim 13, wherein said preprocessing means comprises:

a high-pass filter for cutting off low-frequency noise contained in said stored speech signal; and

a low-pass filter for cutting off high-frequency noise contained in said stored speech signal.

15.   (New) The speech section detection apparatus as claimed in claim 11, wherein

said speech section extracting signal generating means comprises:

gate signal generating means for generating a gate signal for opening and closing a gate means for extracting the speech section related to said speech signal in response to the determination that said short-time auto-correlation value calculated by said short-time auto-correlation value calculating means has continued to stay above said threshold value for a predetermined length of time; and

gate signal retroactively opening means for outputting a gate signal for retroactively opening said gate means for a predetermined period in response to said gate means being set open by said generated gate signal.

16.   (New) The speech section detection apparatus as claimed in claim 11, wherein said speech section extracting signal generating means comprises:

gate signal generating means for generating a gate signal for opening and closing a gate means for extracting the speech section related to said speech signal in response to the determination that said short-time auto-correlation value calculated by said short-time auto-correlation value calculating means has continued to stay above said threshold value for a predetermined length of time; and

gate signal open state maintaining means for outputting a gate signal for maintaining said gate means in an open state for a predetermined period in response to said gate means being set closed by said generated gate signal after said gate means has been opened by said generated gate signal.

17.   (New) The speech section detection apparatus as claimed in claim 11, wherein said speech section extracting signal generating means comprises:

gate signal generating means for generating a gate signal for opening and closing a gate means for extracting the speech section related to said speech signal in response to the determination that said short-time auto-correlation value calculated by said short-time auto-correlation value calculating means has continued to stay above said threshold value for a

predetermined length of time;

gate signal retroactively opening means for outputting a gate signal for retroactively opening said gate means for a predetermined period in response to said gate means being set open by said generated gate signal; and

gate signal open state maintaining means for outputting a gate signal for maintaining said gate means in an open state for a predetermined period in response to closing said gate means after said gate means has been retroactively opened by the gate signal generated by said gate signal retroactively opening means.